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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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5067

7590

10/01/2004

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EXAMINER

JUNG, MIN

ART UNIT

PAPER NUMBER

2663

DATE MAILED: 10/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/751,763

Applicant(s)

SALEH ET AL.

Examiner

Min Jung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-78 is/are pending in the application.
- 4a) Of the above claim(s) 1-5 and 24-78 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 1-73 have been renumbered as 6-78. (The new claims filed on June 27, 2002 are numbered 1-73 ignoring the original claims 1-5 already in the case. Therefore, the new claims have been renumbered consecutively beginning with the next highest number, which is 6.) Response to this office action should specifically include cancellation of the original claims 1-5.

Election/Restrictions

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
- I. Claims 6-23, drawn to network management architecture, classified in class 370, subclass 254.
 - II. Claims 24-31, drawn to method for centralized control by creating authoritative topology database, classified in class 370, subclass 254.
 - III. Claims 32-42, drawn to method for determining a topology including the features of updating and comparing hop counts, classified in class 370, subclass 254.

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- IV. Claims 43-50, drawn to method for maintaining topology information with the feature of comparing information in the master node with backup database, classified in class 370, subclass 254.
- V. Claims 51-59, drawn to method for adding a path with path discovery, classified in class 370, subclass 254.
- VI. Claims 60-66, drawn to method for deleting a path with deletion request, classified in class 370, subclass 254.
- VII. Claims 67-78, drawn to method for changing a path with connectivity change request, classified in class 370, subclass 254.

The inventions are distinct, each from the other because of the following reasons:

3. Inventions s I, II, III, IV, V, VI and VII are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as a network management architecture including a master node configured perform a network management activity, without having to adopt the methods including the features of creating authoritative topology database as in invention II, of determining a topology including the update and comparison of hop count as in invention III, of maintaining topology information by comparing information in the master node with backup database as in invention IV, of adding a path with path discovery as in invention V, of deleting a path with a deletion request as in invention VI, of changing a path with a connectivity change request as in invention VII. Likewise, the

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different methods of inventions II-VII each has separate utility such as each respective methods without having to adopt the other claimed methods. See MPEP § 806.05(d).

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Mr. Samuel Campbell III on September 23, 2004 a provisional election was made without traverse to prosecute the invention of I, claims 6-23. Affirmation of this election must be made by applicant in replying to this Office action. Claims 24-78 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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8. Claims 6-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 6, line 8, it is not clear if "configure" should be changed to "configured".

In claims 9 and 10, it is not clear what kind of relationship is there between the "first topology information" and the "second topology information" with the "topology information" recited at claim 7.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong et al., 5,957,985 (Wong) in view of Uphadya et al., 5,949,755 (Uphadya).

Wong discloses a fault-resilient automobile control system. Specifically regarding claim 6, Wong teaches a network management architecture, comprising a master node (MCU 24), wherein the master node is one of a plurality of nodes (24, 26, 80(1), 80(2), 130(1), 130(2)), each of the nodes is communicatively coupled to another of the nodes by at least one of a plurality of links, the nodes comprise a network, the master node is configured to manage the network by virtue of being configured to a network management activity, and the network management activity comprises at least one

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discovery, implementation, assurance, and restoration, of a path (col. 4, line 48 – col. 5, line 26). Although Wong's teaching is implemented as an automobile control system, it describes the master control and fault recovery as claimed in the present invention.

What Wong fails to teach is the "optical links" and "virtual path". Uphadya discloses ATM emulated path protection method. Uphadya specifically teaches of optical fiber as transmission medium (col. 3, lines 32-31), and the discovery, implementation, assurance, and restoration, of a virtual channel (col. 3, line 45 – col. 4, line 3, and col. 5, lines 33-52, and col. 7, lines 19-56). It would have been obvious for one of ordinary skill in the art at the time of the invention to implement the system of Wong by employing optical links and virtual path as taught in Uphadya to make a management/control system in a larger scale communication environment.

Regarding claim 7, Wong teaches that the master node (MCU) maintains topology information. See col. 2, lines 22-41, col. 4, lines 48-54, and 60-63, and col. 5, line 61 – col. 6, line 14.

Regarding claims 8 and 9, Wong teaches a backup node, wherein the backup node is configured to perform the network management activity if a failure in the network prevents the master node from performing the network management activity, and maintains topology information. See col. 7, lines 24-32, and col. 8, lines 50-60.

Regarding claims 10 and 11, Wong teaches master node maintaining second topology information (an updated copy of executable code), and updating the backup node (secondary control unit) with the second topology information (updated executable code). See col. 7, lines 24-32, col. 8, lines 17-21, and also see the state 124 in Fig. 5.

Allowable Subject Matter

11. Claims 12-23 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter: Prior art does not teach or suggest the network management architecture as claimed in claim 8 further including a standby node to assume the management activity when both master node and backup node fails.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Muniyappa et al. Patent, the Kim et al. patent, the Moriguchi et al. patent, the Burr patent, the Mead et al. patent, the Fan et al. patent, and the Chatwani et al. patent are cited for further references.

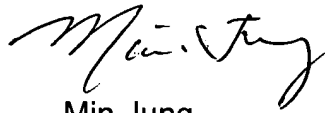
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Min Jung whose telephone number is 571-272-3127. The examiner can normally be reached on Monday, Tuesday, and Thursday 8AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 703-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJ
September 29, 2004


Min Jung
Primary Examiner